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ABSTRACT

Over the last 20 years there has been a surge of activity in research on teaching. Researchers and teacher educators have also debated the merits of this research for teachers in terms of its value and the ways research can influence practice. Controversy continues about the kind and degree of influence research can have on teachers and teacher education. This report contributes to the discussion by taking a closer look at what teachers believe about the influence of research. Two groups of teachers with substantively different prior experiences with research were interviewed regarding their beliefs about the influence of research on their teaching. Three vignettes, based on a review of current literature on teachers' views of research, were constructed to elicit teachers' beliefs. Analysis of teachers' responses shows the conflicts teachers experience when thinking about the influence of research more broadly. In addition, the analysis indicates that teachers' progress through graduate programs in education typically does not broaden their view of how research can influence them. It is therefore critical that researchers and teacher educators create educative contexts in which teachers can acquire broader, more flexible views of research. (Contains 46 references.) (Author/LL)

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Abstract

Over the last 20 years there has been a surge of activity in research on teaching. Researchers and teacher educators have also debated the merits of this research for teachers in terms of its value and the ways research can influence practice. Controversy continues about the kind and degree of influence research can have on teachers and teacher education. This report contributes to the discussion by taking a closer look at what *teachers* believe about the influence of research. Two groups of teachers with substantively different prior experiences with research were interviewed regarding their beliefs about the influence of research ont their teaching. Three vignettes, based on review of current literature on teachers' views of research, were constructed to elicit teachers' beliefs. Analysis of teachers' responses show the conflicts teachers experience when thinking about the influence of research more broadly. In addition, the analysis indicates that teachers' progress through graduate programs in education typically does not broaden their view of how research can influence them. It is therefore critical that researchers and teacher educators created educative contexts in which teachers can acquire broader, more flexible views of research.

Creating Contexts to Change Teachers' Beliefs About the Influence of Research

John S. Zeuli and Linda J. Tiezzi

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> Because the range of understanding is deepened and widened, he can take into account remote consequences which were originally hidden from view and hence were ignored in his actions. . . . Seeing more relations he sees more possibilities, more opportunities. He is emancipated from the need of following tradition . . . and has a wide range of alternatives to select from in dealing with individual situations. (p. 21)

Expectations for educational research can seem like the ancient moral equation Nietzsche criticizes in his *Twilight of the Idols*. There Nietzsche (1968/1889) derides the Socratic/Platonic equation of reason, virtue, and happiness. Reason leads to truth. Truth leads to virtue, and virtue leads to happiness. Clifford (1973) notes a similar equation in her work on the history of the impact of research on teaching. Underlying the enduring optimism and hope for educational research is the belief that "to *know* the right is to *do* the right" (pp. 1-2). Educational research provides the knowledge that will influence teachers. Teachers thereby acquire the pedagogical excellence (virtue) necessary to promote some educational good.

This article does not question the equation's basic structure, except to deny any necessary connection between parts. Knowledge derived from research *may* lead to pedagogical excellence. But, important differences appear in how teachers, teacher educators, or researchers conceptualize "knowing the right." Among teachers, Dewey (1929) laid out broad possibilities. Prospective teachers, on the one hand, want to know how to do things in order to be successful teachers. Research knowledge becomes a source of procedural advice for good performance, and knowing the right means using the right "recipes" (p. 15). For Dewey, on the other hand, knowing the right was also associated with understanding a system of scientific thought. This sense of "knowing the right" meant understanding the principles of and warrants for knowledge derived from research in order to enrich teacher judgment:

Dewey's distinction between what teachers may want and learn from research has contemporary import. Over the last 20 years there has been a surge of activity in research on teaching (see Porter & Brophy, 1988; Shulman, 1986; also Tom & Valli, 1990). Researchers and teacher educators have also debated the merits of research on teaching for teachers—in terms of its influence and value for teachers. Controversy continues about the kind and degree of influence research can have on teachers and teacher education (for contrasting views, see Berliner, 1987; Phillips, 1989; Tom, 1985; Tom & Valli, 1990). This report contributes to the debate by taking a closer look at what *teachers* believe about the influence of research.

Two groups of teachers with substantively different prior experiences with research were interviewed regarding their beliefs about the influence of research on their teaching.[1] Three vignettes, based on a review of current literature on teachers' views of research, were constructed to elicit teachers' beliefs. Analyzing teachers' responses to the vignettes proceeds as follows. After presenting the vignettes and describing the sample and interview structure, I provide a general account of teachers' identification with particular vignettes. This general account is followed with a detailed analysis of teachers' responses—the conflicts teachers experienced and their transition to an expanded view of research's influence on their teaching.

In conclusion, I argue that teachers' beliefs about research's influence are consequential for all teachers, particularly teachers working in professional development schools. I also suggest that the process by which

teachers' beliefs are changed is less mysterious, though as important, as some researchers claim (see Tom & Valli, 1990). It is therefore critical that researchers and teacher educators create educative contexts in which teachers acquire broader, more flexible views of research. Before looking at the literature on what teachers think about research, I first review recent scholarship on the influence of research on teachers' practice.

The Importance of Teachers Learning About Research

Research Has No Immediate Utility for Teachers

Drawing on Schwab and Dewey, Shulman (1984) argues that to the degree that educational theory grows more powerful and clarifies an area of inquiry, its focus narrows "as a laser-like beam that brilliantly illumines a tiny area" (p. 45). The benefits of educational research will emerge through the "increasingly central roles played by well-educated teaching professionals" (p. 46), not its immediate influence on practice (see also, Buchmann & Floden, in press; Clifford, 1973; Richardson, 1990).

The consensus view that research findings have no straightforward implications for teachers' practice can be broadly documented. Resnick (see Brandt, 1988a), for example, argues that results from the growing research on cognitive learning cannot simply provide new teaching techniques. Teachers must go beyond research findings and understand the principles of learning involved, their subject matter, and the context in which they work. And, as Tom (1985) explains, even the most detailed and insightful ethnographic work can not by itself provide the basis for deciding how to change any teaching practice (see also Cazden, 1983; Tom & Valli, 1990). Brophy (1988) also argues that one abuse of the teacher effects research has been the attempt to simply translate findings into rules for teachers to follow and emphasizes that teachers must interpret research findings. Also, Berliner (1987), possibly the strongest advocate of teachers' rapid application of research findings, tempers his enthusiasm by pointing out that research findings are not easily generalizable. He goes so far as to say that telling teachers to follow rules derived from research "makes most researchers angry" (p. 29). Slavin (see Brandt 1988b) takes Berliner's indignation one step further. Slavin suggests that teachers must have the capacity to understand research evidence before changing their practice.

> Until we have practitioners who say, "I'm not going to use that until I've seen good experimental evidence for it," we're going to continue on the educational pendulum with the "miracle of the month" and will not make much serious progress (p. 28).

These remarks are significant since there is sometimes no relationship between the scientific quality of a study and its degree of use (see Huberman, 1987). Slavin's comments are also noteworthy considering that his work on cooperative learning has been cited as the kind of research that should be taught to all prospective and practicing teachers (see Berliner, 1987). Despite this high praise, Slavin rejects drawing conclusions for teaching from research unless teachers understand evidence supporting the findings.

Teachers' Ideas About Research: What Do We Know?

The teacher education literature includes little specific, systematic study of teachers' ideas about research. What is most prevalent are researchers' and teacher educators' individual impressions and some information taken from studies of teachers' knowledge use. Sparse though it is, this work is important because it provides trustworthy signposts for teachers' thinking in this area.

Gleaning this literature, one finds that teachers have three distinct conceptions of research. By far the most common is teachers' view that research is irrelevant and lacking in practicality (see Lucas, 1988; also Broudy, 1985). Teachers feel that it does not answer questions they themselves ask and solves problems they feel are less than critical (see Huling, Trang, & Correll, 1981). Many of these teachers likely find research reports difficult to understand. They are awed by research jargon (see Clark, 1986; Griffin, 1983), overpowered by the multiplicity and fragmentation of research results (Tom, 1985), and find research too theoretical (Bolster, 1983). Predictably for these teachers research is not helpful (Howe, 1984) and seems far-removed and contradictory (see Richardson, 1990; Richardson-Koehler, 1987). Teachers see little inter-

action between the world of educational researchers and the world of teachers (Hopkins, 1985). The lack of perceived relevance dampens their interest in the findings of researchers and the adaptations of teacher educators. Perhaps because teachers see research as irrelevant, they are suspicious and believe researchers are self-serving (see Hosford, 1984). It is no surprise then to find teacher educators concerned that teachers are alienated by research (Fenstermacher, 1983). In sum, many teachers see research as useless (Bolster, 1983; Clark, 1986; Hosford, 1984).

Though teachers are sometimes resistant to what research can offer (American Federation of Teachers, 1983), they also may *look for and find answers* in it. In this conception of research, teachers see research as useful, providing techniques and strategies that they can apply immediately. Teachers sharing this view appreciate research programs that supply them with a list of "shoulds" that bear some direct relationship to what they are doing (see American Federation of Teachers, 1983; Shulman, 1986). Research offers these teachers standardized practices that "will help to get the lazies [sic] in line" (Garman & Hazi, 1988, p. 671), and the scientific authority of research heightens their sense of professionalism. The uncertainty and complexity of teaching is probably alleviated somewhat for these teachers. Thus, research findings are worthwhile when they provide usable answers and are made commonsensical and practical (Huberman, 1983; Louis & Dentler, 1988), even if teachers sometimes distort these findings (see Huberman, 1987).

The third conception in the literature is more elaborated than the first two, but also held by fewer teachers. Rather than seeing research as irrelevant or research findings as authoritative, these teachers view research as illuminating their practice, helping them become more aware of what they are doing. They see research as challenging and interesting (Muir, 1982). Research provokes thought and helps them understand the complexity involved in what they do (Thomas, 1984). It also lets teachers see how others teach, helps them test decisions they have made, and provides principles to negotiate classroom tasks (see Porter & Brophy, 1988). In this view, research doesn't give answers, doesn't make decisions, but can be a helpful source of insights, ideas, and information (see Thomas, 1984).

Structure and Content of the Vignettes

Drawing from this relevant literature, two beliefs about the influence of research, and one concerning research's lack of influence, formed the basis for vignettes designed to elicit teachers' beliefs about how research should and does influence them. Each of the three vignettes represents a way teachers can think about research's influence, or its lack of influence. Each vignette also included some basis for the particular view the teacher held. Overall, the vignettes were designed to fill in each divergent profile in the current literature more clearly and vividly.

Vignette Number One: Neal

Research may be in conflict with or beyond a teacher's net of personal experiences. Neal represents a teacher who eschews research and emphasizes teaching experience as the primary, if not sole, guide to learning about teaching. Research does not in any way connect with his teaching. While not totally negative toward research, this teacher wants answers from research, but he has not found them. The complete vignette on Neal that interviewees responded to reads as follows.

> Educational research has never been relevant or practical for me. I am a certified teacher and have taken all the required teacher education courses (that invariably included some research). But research has not provided me with the instructional techniques and know-how I believe it should provide. The information I use to guide my teaching comes mainly from my own experience. I have not found research evidence from research important to guide or change my teaching.
>
> Why do I feel this way about research? It may be because the kinds of questions that I ask about my teaching are rarely answered by researchers. Researchers might have solved what *they* consider important problems, but those problems seem less critical to me in my work. I have not seen a lot of interaction between researchers who live in the "ivory-tower" and teachers who live in classrooms. Because research seems irrelevant to classrooms, I'm not very interested in following what researchers are writing about. Research is also hard to understand because it has a lot of jargon and tables only specialists can figure out. It's far too theoretical for what teachers need in their classrooms.

I am not saying that research has no value for teachers, or that I am wholly against it, even though I am critical. I am saying, however, that I do not think about educational research when I teach. If I hear of a good idea about teaching that happens to come from research, I'll try it out. And if someone could present to me recommendations from research that are supposed to work for teachers, I would listen. But before I accept such recommendations, I want to find out if it works in my classroom. To this point, research has not done this.

Vignette Number Two: Deryl

Deryl also perceives research as mainly providing strategies and techniques. But unlike Neal, teachers educators and researchers have supplied Deryl with these teaching strategies. Deryl is thus enthusiastic about the potential of research to influence teaching, though is not interested in becoming involved with research texts. Deryl wants from research-based strategies to try out and has received prescriptions drawn from research that have worked in the classroom. Deryl believes strongly that research should directly impact teaching.

> While I understand teachers' frustrations with research, my experiences with educational research have been positive, and these experiences have influenced my perspective.
>
> Educational research can definitely be useful. At any rate, it has been useful to me and should be useful in the following way. Research should give teachers information that has a direct impact on what they are doing and needing in their classrooms. It's true that research can be too theoretical. Fortunately, the research that I learned about was not written up in the normal academic jargon that only researchers can understand. I did not have to study the in and outs of the study on which the research findings were based. The findings were made understandable and I was able to learn how to apply them in my class.
>
> Making research clear and ready for me to use is important because teaching is fast-paced work. The large number of students and the need to look after all of them creates many problems. Research can help. Sometimes when I have had a problem in my classroom, research that I encountered through inservice, a university course, or my own reading provided an answer. For example, I was having problems with discipline in my class, and through an inservice on classroom management, I learned instructional techniques about how to handle the situation. Also I've learned about different ways to manage my time more efficiently when I teach. This research is worthwhile to me because it provides information and ideas that work directly in my classroom.
>
> This is what research can and should do, provide teachers with missing information and skills useful to solving their concrete classroom problems.

Vignette Three: Sarah

Sarah sees research as complicating her ideas about teaching, but also sees this as its strongest attraction. She wants research to help her understand what she does, and is disposed to take time to read and think about research texts. Her views on research seem at times almost unrealistic. For example, she approaches reading research like she approaches reading good literature. Her enthusiasm for research comes not from the potential of research to help her do things more efficiently but its potential to help her understand more deeply what she does and what she might want to do.

> Research has rarely given me answers or made my decisions about what to do in my classroom much easier. Research can help me raise new questions and provide different ways of seeing the difficulties involved in teaching. In fact, I would prefer that research do this for me rather than help me with information and strategies that are supposed to change what I do directly. I don't think that research can do much to have a direct impact on my teaching.
>
> Research is especially valuable when it helps teachers think about a point of view or raise a question that they never thought about before. For example, I had students last year who just did not understand fractions. In this case and others like it, studying research helped me see what's happening here more clearly, perhaps differently. I read research in a class that introduced us to a whole different way of thinking about what it meant for students to understand math, including fractions. The research changed my view of teaching fractions more than it told me what to do.
>
> The purpose of research is not to provide techniques to help solve classroom problems. Teachers should read it somewhat like they try to read good literature. Good literature prompts people to see and examine things in a new light. Through reading, say, a novel, you gain a deeper and broader perspective on your own experiences, thoughts and actions. Educational research can

do the same thing, though researchers rely on more explicit methods of analysis which provide the reader ways of seeing and assessing what was done and what that means.

Teachers have to study research closely. They cannot rely on others to make research clear and easy to use when they think about how research can influence their teaching.

The Sample

Two groups of teachers with substantially different research experiences were given these vignettes to read prior to the interview session. One group of teachers ($n = 5$) was composed of former teacher collaborators who had spent one year working with educational researchers on research projects related to teaching and learning in public schools (see Porter, 1986). In addition, the five teacher collaborators had all received master's degrees in education and each had at least 12 years of teaching experience. Two of the collaborators were male. Another group of teachers ($n = 8$) had considerably less prior experience with research. None had worked on any long-term research project. Seven of these teachers, however, either had a master's degree in education or were one course shy of obtaining it. Two of the eight teachers in the second group were first-year teachers. The six other teachers in the second group had between 4 and 10 years teaching experience. One teacher in the second group was male. Also, there were seven elementary teachers, four middle school teachers, and two high school teachers included in the sample (see Table 4).

All subjects volunteered to be part of the interview study. A list was provided to this researcher of former teacher collaborators. They were asked if they would be willing to participate. The other practicing teachers who participated were drawn from a pre-enrollment list of master's students taking a classroom research course ($n = 4$). Another four practicing teachers were chosen based on recommendations from other educators (teachers and teacher educators) working with teachers in local school districts.[2]

Table 1

Questions Asked to Teachers About the Vignettes

1.	Which vignette is most like you?
2.	Which individual statements in the the vignette you chose are closest to your feelings and beliefs about research? (It may be helpful to underline those statements as well.)
3.	Why did you eliminate the other two teachers? Were there any statements or attitudes that you disagreed with strongly? (It may be helpful to underline those statements as well.)
4.	Were there some statements teachers made in the vignettes that left questions in your mind? If yes, what were the statements? What questions did you have?

Structure of the Interview

All teachers were provided four questions about the vignettes (see Table 1) *before* the interview session. They were asked to think about these questions and encouraged to write down their ideas prior to being interviewed.

Teachers were also asked to talk about any questions the vignettes left in their minds and were given the option to state another way in which teachers could view research. In addition, teachers were asked specifically, if these issues were not already addressed, whether they thought research mainly should provide them with teaching strategies to apply directly in their classroom, and whether a central role for teacher educators and researchers is to make these finding clear and ready for them to use.

Teachers' Responses to the Vignettes

I now turn to teachers' responses to the vignettes. The analysis draws primarily on teachers' responses to the direct questions about the vignettes described in the preceding paragraph. It also draws on other pertinent sections of the complete interview protocol.[3]

Vignette Choices

Teachers' most frequent response was the direct impact view of research. Six teachers (46 percent) identified most with Deryl. Closely following this choice were five teachers (38.5 percent) who identified with Sarah—the vignette that represented research as a way to expand their understanding of teaching. Two teachers (15.5 percent) claimed that they wanted research to have a direct impact on their teaching, though this had

not been their experience (Neal). This aggregate of choices can be broken down further by considering teachers' choices of vignettes (a) by educational credential level and (b) by prior experience with research.

Table 2

Distribution of Vignette Choices by Credential Level

	No Graduate Work		Master's Degree or BA + 27 credits	
Vignette Choice	*N = 1*	%	*N = 12*	%
Neal–Lack of Influence	0		2	17
Deryl–Direct Impact View	1	100%	5	41.5%
Sarah–Expands Understanding	0		5	41.5%
Totals =	1	100%	12	100%

As Table 2 indicates, progress through and successful completion of a master's program was not associated with particular beliefs about research's influence. Seven teachers had completed their master's degree, three had more than 30 hours toward their master's degree, and one other was 27 hours into their master's program. These teachers were as likely to chose the Deryl vignette as the Sarah one. Beginning teachers, Dewey (1929) thought, were most interested in classroom techniques drawn from research. One beginning teacher in the sample, Jessica, chose the direct impact view of research, but so did five other teachers who had or nearly completed their master's degrees. Teachers' educational credentials, in general, were less associated with broader, more flexible beliefs about the influence of research.

What was closely associated with these beliefs was teachers' in-depth involvement with research as teacher collaborators. Four out of five teacher collaborators—teachers who had spent at least one year working with educational researchers on projects related to teaching and learning—chose Sarah, the vignette emphasizing that the role of research is to expand teachers' understanding. Therefore, teachers' graduate study did not seem to affect teachers' view that research provide concrete, practical, and immediately applicable knowledge. Educational contexts in which teachers learned about research or helped conduct it seemed to alter teachers' views (see Table 3). These contexts may have been instrumental in reducing teachers' interest in techniques and helping them acquire a conceptual grasp of the ideas behind the research. To examine this hypothesis, we turn to examine more closely teachers' responses to the vignettes.

Table 3

Distribution of Vignette Choices by Teacher Collaborator Experience

	No Collaborator Experience		Former Teacher Collaborators	
Vignette Choice	*N = 8*	%	*N = 5*	%
Neal–Lack of Influence	2	25%	0	
Deryl–Direct Impact View	5	62.5%	1	20%
Sarah–Expands Understanding	1	12.5%	4	80%
Totals =	8	100%	5	100%

Analyzing Individual Responses to the Vignettes

Teachers' reactions to and reflections on the vignettes were often passionate, digressive, and, at times, deeply conflicted. These conflicts existed both between teachers and within individual teachers. The strategy for analyzing their responses will be to select and to highlight teachers' most notable responses to each vignette. Greater focus, however, will be on the conflicts individual teachers had when responding to the vignettes and on teachers whose experiences with research encouraged broader, more flexible views about research's influence. Teachers who chose the Neal and Deryl vignettes are examined first. For ease of reference, Table 4 provides a summary of teachers in the study and the vignette each teacher chose.

The Direct Impact View of Research: Identifying With Neal and Deryl

Neal's vignette drew some of the strongest responses among interviewees, especially among those who did *not* chose him. These interviewees characterized Neal as inflexible, narrow, indolent, and extreme (Fran, Nick, Jessica, and Nicole).[4] While two teachers (Karla, also, Ana Marie) agreed with Neal's focus on learning about teaching primarily from teaching experience, another teacher, Cheryl, saw this as alarming: "I think that's so dangerous an idea because teachers are in lock-up for their whole career. So, if you only use your own experience . . . it just seems that it would be so limited and so limiting."

Table 4

Vignette Choices and Interviewees' Pseudonyms

Vignette		
Neal (No Influence)	Deryl (Direct Impact)	Sarah (Expands Understanding)
Andrea (MC) Middle School Math	Ann Marie Elementary	Bryan (TC) Middle School Social Studies
Lynda (MC) High School Remedial Math	Jessica (BT) Middle School Science	Cheryl (TC) High School English
	Karla (MC) Elementary	Pam (TC) Elementary
	Lena (MC) Elementary	Geoff (TC) Middle School Math and Social Studies
	Kathleen (TC) Elementary	Nick (BT) Elementary
	Nicole Elementary	

Key
MC = Teachers pre-enrolled in a master's level course on classroom research.
BT = Beginning teacher.
TC = Teacher collaborator.

One teacher, Andrea, who chose Neal as the vignette with which she identified feared research and felt that researchers have not spent time in the classroom to understand teachers' work. She also viewed the language of research as inaccessible: "They really don't know how it is, and a lot of research is just a lot of tables and jargon and things like that I can't figure out."

Andrea saw research as three steps removed from practice: There were colleagues' opinions about what to do in the classroom. And then there were research findings. And then there was research. Andrea associated research primarily with research findings. She described herself as neither reading research findings nor delving further into research. She wanted research findings related to instructional techniques because "I don't always know that I'm doing it the right way." Andrea, however, wishes that her approach to research was broader: "Sarah is really into the research, and I guess that's more the way I wish I could be."

Nonetheless, Andrea had beliefs about research similar to those teachers who chose Deryl. These included the belief that (a) research is full of jargon; (b) experience is the best way to learn about teaching; and (c) research should mainly provide techniques and strategies. I turn now to teachers who were more certain about what they wanted from research, and had also secured it.

Only Research That Works

Two teachers, Nicole and Karla, adamantly denied that they wanted anything from research other than directly useful tools to deal with classroom problems. Nicole said that cooperative learning research and the research from Madeline Hunter influenced her teaching. She offers some understanding of her relationship to these research programs and what she wants from them.

> They give me methods and things in the hand, instantly. I could never tell you what research that was cited from, or who did the research, or who they researched. . . . It's more like give me, just tell what it is that works. A quick fix. Don't tell me that you researched 100 kids and 98 got it. Just here's a good method. It works. It appears to work in most classrooms. Try it.

Nicole says that she feels this way towards research because teaching is fast-paced work, there are discipline problems and sick students, and so she needs something that she can use right away, "the hard facts, the results."

Nicole does state that research has at times influenced her awareness. She had not thought about how a student could misunderstand the word "of" in multiplication and perhaps not know its different uses within and outside the math world. But, she does not believe teachers need to become involved with the research.

> I don't think they [teachers] have to study it closely either. I think that they or me or whomever can take research, and maybe it does work for some people, maybe it doesn't work for everyone, but I don't think I need to study it closely. I basically know when something works by using a technique or a result. . . . If it works, you don't need to go back and find out why they say it was working. I don't have time for that. I let the researchers research and the teachers teach.

Karla's attitude toward research's influence is similar to Nicole's. Karla wants research to tell her what is wrong, what information she needs, or where to go find it. "Give me a technique, okay." She also wants research to be "direct, short, and outlined." She says that she does not mind studying research,

> but if I'm going to study it, then I want to be able to pull out of there, something practical, something concrete. . . . I don't want to waste my time reading a bunch of research unless it's clear cut. I know that I have to make my own association with that, but for right now, tell me, this is what I need to do.

Karla states that she wants to study research if it tells her what she needs to *do*. Consistent with this approach, she believes that teacher educators and researchers should make research clear and ready for her to use. This would be more convenient, reducing the amount of time she would have to spend studying it. "Why have 200 people studying the same thing, when 20 people can do it and make it clear and precise for other people?"

Evaluating research is not discovering its use. Karla's beliefs about the influence of research suggest that she confuses analyzing and evaluating research with finding out how she can use it. She had been involved with an inservice on cooperative learning, and also had studied it through a class project. She states that when she read this research, she would "sort through, pick out the things that were important, the things that I understood. Put it together. In other words, analyze, synthesis. Is that the right word? And also evaluate it. You know, what would work for me." Evaluation of research has come to mean looking at how she can use it in the classroom. This is consistent with Karla's beliefs about how research should influence her. But, it may reduce her ability and willingness to acquire a firm conceptual grasp of the ideas that lie behind the techniques.

Conflicts About Research Answers

Like Nicole and Karla, Ana Marie and Kathleen were confident supporters of the direct impact view of research influence. Their responses also revealed ambivalence about this view of research influence. I turn now to describe and to examine their beliefs.

Ana Marie describes herself as someone who initially accepted all research uncritically, but now states "that 98 percent of the research that's done is garbage." She sees herself as someone who has read a lot of research and is critical of it, which is why she even partly identifies with Neal's vignette. She firmly believes "that research should have a direct impact on teaching," and that "teachers do not have to study the ins and outs of the study on which the research findings were based." She gives high praise to research that helps teachers in "practical areas" such as time management and discipline. She denies that teachers would want to read research articles, and also claims that if she had

> five minutes to sit down and read, I'm not going to read educational research. I want to read my mail. It's just not very reasonable. But to present it in a package and run inservices on it, that's worthwhile. I think that's an effective way to get research across to teachers.

So, Ana Marie is deeply skeptical of the value of research for her own professional development except in so far as it can directly impact her work. She also sees herself as someone who has read a lot of research, but is not disposed to do so.

> You know what it does? It disillusions me. Why go back and read all that stuff? Part of it is to find out that a lot of it is B.S. That's what it comes down to. And you think, gosh, you know, whole schools of philosophy have been based around *this*. What is this? That's where I get back to I'm kinda critical.

Answers without explanations are inadequate. Ana Marie asserts that research should have a direct impact and that neither herself nor other teachers need to read and study it. Her beliefs about reading research are qualified when she discusses how the influence of research is harmful when it is misinterpreted. She describes her interest in Piaget's theories, and says she had planned to write a thesis drawing on his research describing the transition in children from concrete to operational thinking. She believed this transitional period was connected to children's increased math anxiety. Ana Marie further describes her thinking about Piaget's research:

> Also when I read more and more about Piaget, he never wanted his work to become what it became. To him, it was just an understanding of child development. But you weren't supposed to develop curricula around it. Because for him you couldn't do anything to change a child from going from sensory to concrete and concrete to operational. It just happened naturally anyway. There was nothing you could do. So what do we in America do? We develop all these developmental programs. We're going to get those kids ready. We're going to provide all of this material for them and kind of help them along to get them into this next stage. We took it and perverted it.

Ana Marie's point suggests that the problem is not with research. The problem is that teachers are told what to do based on research and do not have the opportunity to read and understand it. This is apparently in conflict with her claim that the influence of research can be direct and straightforward without teachers' sustained involvement with research texts. She recognizes this tension and responds.

> Well, what you're saying is that I've said two different things now. Yeah. And I meant both of them (laughing). . . . I'm thinking about it. I'm thinking about teacher responsibility, individual responsibility for knowing what you're doing and why. Do you just accept everything that people tell you?

She elaborates on this response, noting that the direct impact of research can have different meanings for herself and other teachers. She distinguishes between research that she is "comfortable and familiar with" and has a direct impact on her work and research that she is not familiar and comfortable with and will have a major, direct impact on her work. In the latter case, she wants and needs to study it. Ana Marie mentions an inservice on reading instruction. The presenter stated that reading specialists should do more consulting with teachers and "try to keep the kids in the classroom as much as possible." Ana Marie questioned the presenter who kept emphasizing the authority of the research. After persuading the presenter to give her a copy of the research to read herself, Ana Marie found that all the research was done on

> children in special education classes, children in EMI rooms, children who are emotionally, mentally impaired. None of it was done in a regular education setting. And I couldn't believe it. This is a major transition for the public schools, and they're basing all of this change on research done in a completely different setting. To me, that's an abuse of research.

Later in the interview, Ana Marie summarizes her view on the influence of research:

> If it's going to have little impact on me, or an impact that I'm comfortable with—it might be a big impact, but it's something that I'm comfortable with like Madeline Hunter—then I'm not concerned about knowing all the details about the research. But when it has a big impact on me and I'm not comfortable with—and the example I gave was the consultant model—then I want to know more about it. I want to know where they're coming from and why I'm being asked to make the changes I'm being asked to make. Why I'm being asked to implement what I'm being asked to implement.

Ana Marie defines comfortable as something that she is already familiar with, that already fits her schema that she says is based on "intuition" or "classroom experience." Ana Marie sees value in reading research texts, but only if she is being asked to accommodate in the Piagetian sense a new practice she does not feel comfortable with. "If it already fits into my schema, then I can accept it easier."

Ana Marie consistently holds that research should have a direct impact. Conflicts erupt when she claims that teachers need not study it. She recognizes that she has a professional need and responsibility to understand explanations for "answers" based on research. Her beliefs are defensible if she is able to evaluate well research used to support major teaching changes that she is not comfortable with. Her defense also depends on whether research should only impact teachers' work directly. This issue emerges in an interview with a former teacher collaborator, Kathleen.

Should Research Only Offer Answers for Classroom Practice?

Before becoming a teacher collaborator Kathleen identified most with Neal. She states that she

> really had no use for research at all. I would read some of the results of studies and found it sometimes so simplistic it was laughable, the conclusions they would come to. Where are they, do they ever go any place? That wasn't the way real life was.

The process of working with researchers and writing about her teaching changed her belief that research lacks relevance for teachers. Her work as a collaborator involved describing how she responded to students with different classroom behavior problems. Through her work and through reading research summaries provided by the Institute for Research on Teaching, Kathleen became convinced that research could influence teaching. She mentions work specifically connected to the institute such as studies examining the relationship between the mathematics curriculum and the standardized tests student must take, and she highlights other research not carried out by the institute such as "time on task." These studies and studies like them she considered very useful. Describing her response to the curriculum study, she says,

> It changed the way I did it. I switched my curriculum and make sure my kids know decimals by the time they take that test. It's not fair to give a test standardized against the other fifth graders in the country and you haven't taught them decimals, and it's 30 percent of the test.

Kathleen's teacher collaborator work changed her views about the influence of research from "it should have a direct impact but does not" to "it should have a direct impact, and does" (i.e., from Neal to Deryl). She argues that the "whole heart of research" is to have a direct impact on what teachers are doing and needing in their classrooms. Kathleen's response to the Sarah vignette is similar to Ana Marie's characterization. Kathleen states that Sarah's point of view is interesting, but "it's purely like a theoretical, academic kind of thing. No, if research can't give you something that's practical and makes a difference in the effectiveness of teaching and learning, then it wouldn't interest me at all."

Research should influence teachers by coming up "with information that helps teacher very quickly improve their technique or change a strategy, or do things in such a way that students learn better." Since teachers, however, are not "robots," she prefers "a good, sound principle" that the teacher can use "to work out the specifics." Joined with these beliefs is Kathleen's unyielding stand that teachers do not have to study research closely. "That is a monumental job! No teacher has time to do that. Implicit here is a total lack of trust." Kathleen places her trust in researchers with whom she's worked. If research colleagues provide it, then she does not need to know where the "good, sound principle" comes from.

Conflict: Broader influence blurs established roles. Kathleen retreats from her position that research should only directly impact teachers. Kathleen is asked to read three different kinds of research, and she finds most interesting and stimulating the article that has the least to do with directly impacting teachers' work. The article she read was Larry Cuban's (1988) work on school reform. It provides no directives or principles for what teachers should do in the classroom. Kathleen, however, sees this article as important for teachers to read: "This isn't what I think of basically as the kind of research that would make a direct impact in my classroom. . . . But it's nice to be able to read something that really gives you a much broader view of what you're doing."

Kathleen clearly recognizes the importance of research influencing her thinking in ways which have little direct connection to classroom techniques. Looking at the broad view of things is important for teachers "because otherwise we get very narrow in our viewpoint." Kathleen responds to the comment that this type of research might not be offered to teachers because it does not directly impact their practice.[6]

> Yeah, you know, that's a real kind of tension that does exist and you learn to live with it a bit. The year I was a teacher collaborator was enormously stimulating. . . . I was writing about my teaching and thinking about my teaching for the first time because nobody had ever asked me why I did anything. So it was an interesting challenge to talk to adults about all these interesting questions in education. . . . But you feel like a fish out of water after you have done that. You're sorta in-between the practicing teacher and the research group, and you're just wandering around the middle there for awhile. But this kind of thing [the Cuban article], I don't seek this out.

Kathleen's teacher collaborator work separated her from what she identified as the teacher's traditional role. She associates research that broadens her perspective with inner conflict because she is strongly attached to her colleagues who are not as accustomed to being challenged about "all these interesting questions in education." Kathleen sees the value of how research can break teachers from narrow viewpoints,

but her preference is for research that provides information to directly impact classroom life. She has not integrated how a teacher can accommodate both views while remaining a practicing teacher.

In summary, the teachers who chose the Deryl vignette emphasized findings from research that were "concrete" and could impact their teaching immediately. They wanted research findings that gave them classroom guidelines they could trust without understanding the basis for the findings. Kathleen and Ana Marie recognized the limitations of focusing only on research answers. Ana Marie perceived the need to evaluate research, and Kathleen recognized that she wanted research to influence her thinking more broadly. I consider next those teachers who claimed they wanted research to serve wider purposes beyond research findings that prescribe what they should do to solve problems.

Teachers Identifying With Sarah

All five teachers who choose Sarah emphasized that the most important thing they wanted research to do was to help them raise questions and look at classroom practice differently. The idea that research should provide usable strategies and techniques was not wholly rejected, but clearly subordinated. Skepticism about research or its "faddishness" did not mean these teachers wanted research techniques for immediate use and validation. Geoff, for example, acknowledged cyclic research topics, but this did not lead him to focus on research techniques. Geoff believed

> that research is ongoing like life. You know, you keep learning more. You become clearer about some things, and some things get discarded. Other teachers [e.g., Fran] focused on the value of learning the language of research. Some teachers' responses to the vignettes also offer evidence that their work as teacher collaborators helped them understand how research can influence their thinking more broadly.

Must Research Change Teachers' Practice to Be Valuable?

As a veteran teacher, Bryan believed that the function of research was to change teacher action. He maintained this view until he assumed a teacher collaborator role. Working on a project in which researchers studied how teachers taught reading, Bryan looked at how teachers allocated their time during instruction. His role, in part, was to interview teachers about their decision-making processes as they helped students comprehend texts.

Bryan details his prior view of how research influences teaching before becoming a teacher collaborator:

> You decided as a researcher you would change something—you go in and make that change—do research and collect data on the change you have made and see if it was better now than it was before. Like running an experiment, more scientific.

He states further that "my views definitely got restructured by working on the research project." His idea that research *changes* practice was transformed into research *makes sensible* classroom practice. He says that now "my model of research is a whole lot more going in, seeing what's going on, and trying to make sense out of what's going on."

Bryan's transformed view is consistent with his assessment of the Deryl vignette. Bryan says that at first reading Deryl sounded like him, but, after thinking about it more, he identified with Sarah. He states that the Deryl vignette focused on techniques, "the how of teaching," while Bryan thought research's influence was "more discovering why and the how will grow out of the why." Bryan's identification with Sarah is understandable based on his association of research with sense making. Sarah's vignette is more flexible. It portrays research helping teachers *make sense* (discovering the why) of classroom life. Deryl's vignette is more rigid. It focuses only on research products (techniques and strategies) to *change* classroom practice.

Through his research involvement, Bryan's thinking about the influence of research and his teaching practice changed. He admits that it was painful to realize his teaching of comprehension was inadequate. Most teachers, like himself, do not want to listen to research because "it says things they don't want to hear." He stresses, however, that teachers have to understand what researchers are saying in order for meaningful change in their teaching to occur. Understanding research is difficult for Bryan because of the language

of research. This is why personal contact with researchers is paramount for Bryan. The language of research can be mediated through conversations with researchers. He also hints at a middle ground between how-to teacher-oriented magazines and arcane research journals. The former provide

> a lot of how tos without explaining the whys. And with a lot of research journals, it's hard to understand the whys the way they're presented. It's too bad there isn't a middle ground, somewhere along the line. But I know why they do it—the teachers, most teachers want—give me the techniques, let me go do them in my classroom and see if they work or not, and they want them in short fast versions.

Because of what teachers want from research and because the language of research is inaccessible, Bryan did downplay in some respects the value of research.[6] He nonetheless has an expanded view of how research can influence him. He claims that most teachers' view of the influence of research is one-dimensional and narrow. They want research to provide the "how-tos" and not "the whys" of teaching. Bryan values his personal relationships and conversations with researchers, trusting these experiences will mainly help him understand research he finds interesting.

Learning the Language of Research

As a teacher collaborator, Fran worked on a research project looking at how teachers' conceptions of their work changed over time. She initially felt threatened by the two worlds teachers and researchers inhabit. Teachers and researchers ask questions, approach problems, and seek solutions differently. The language of research was her greatest stumbling block: "When I first came to research the most difficult thing was sitting there trying to understand the vocabulary. You'd sit there and say, what are they talking about?" Familiarity with the language slowly began to change her views about research and researchers.

> But after you are there for a while it grows on you, and I think that helped me more than anything, that over time and with more exposure I could learn more about research, and research became much more helpful. I changed my opinion about a lot of things. It wasn't that these people knew more, these people have all these words. It's just that they had more exposure, had learned different ways of saying things. And if I sat there long enough and read long enough I could too.

A surprising shift in understanding. Fran asserts that one of the changes she experienced was the kind of skepticism she had toward research. She became tired of friends using research

> to prove, to support their own small beliefs. And so I became very skeptical about research. Plus, when you're in school, in order to get you to do anything, they always say, "And research says." The moment you say, "Research says," I want to say, "What research?"

Fran's original skepticism toward research was based on the genuine misuses of research that she saw among colleagues. But it was also based on her lack of understanding of it. She states that she was "surprised" when she started working on the research project and discovered that many research questions came out of what she as a teacher considered very small parts of classroom life. Fran had to restrain her usual desire to look at the research in terms of what it should do for her as a teacher:

> With research, the part you might be trying to figure out is, "What's happening in that child's life?" or some small part of what's going on there. Or, "If this is an ongoing thing, what led up to it?" All I wanted to do as a teacher is get it done.

Fran learned that researchers often try to understand a small part of classroom life that a teacher may overlook. This helped her see research more positively. It also prompted her to look at research more in terms of "what this person is trying to prove," and less in terms of what she needs immediately accomplished as a teacher.

Fran also chose Sarah as the vignette with which she most identifies because Fran believed that research should move teachers beyond a focus on classroom techniques. Moreover, she viewed Deryl as "eliminating the decision making by the teacher" and too passive in relation to the authority of research. But Fran also believed that Sarah's emphasis on reading research closely was too strong. Obtaining clarification from someone involved with the research could be helpful. Also, Fran had read research syntheses that

cut down the amount of time she had to go sifting through the research and gave her guidance on whether she wanted to go deeper into the research. Fran, however, felt uncomfortable with making it ready to use:

> A teacher educator has a particular bias, a researcher has a particular bias. And when they give me ready-to-use research, I think they have narrowed my perspective. They've guided how I'm thinking about this particular issue.

Fran wanted to read research and consider the evidence on which the research is based. She seemed to accept and appreciate summaries of *various* approaches to a problem that were based on research because these would help her reflect on it. But, she was cautious about translations of research findings geared to encouraging her to do something. Fran did not want her thinking about the problem to be inappropriately narrowed.

Research Ideas—Not Answers—Are Valuable

Cheryl, a former teacher collaborator, did not understand how research could have a direct impact on her teaching. She claimed that she had "yet to see a classroom problem that was concrete." Hers were "complicated, abstract problems." To Cheryl, Deryl's view of research implies a specificity that research can not offer. "I used to believe there were answers and I hunted for them, and got really ticked when I couldn't find them." She admits that research can offer possible answers, but the value of research to her is something different.

Cheryl emphasized the relevance of research *ideas*. She is not content to look only for research strategies, test them against her experience, and use or discard them accordingly. "Using" research has connotations she rejects:

> "Usable" somehow has an attached connotation of disposable connected to it. And I think there's a real interesting question in that. Do you use research for a while and when it's all used up, do we dispose of it like a dirty diaper, you know? Or, do you store and then reuse it again 20 years later? I don't know. It's just an oddity when you talk about using research. A strange term, a comical term.

Cheryl's approach to research is working through the ideas associated with the research, thinking about them, and perhaps trying to put them into practice over time, as she does with cooperative learning. Research can address neither all the particulars of her practice, nor can research-based strategies simply become part of her teaching repertoire. Research ideas and research-based strategies are integrated slowly into her system of ideas about teaching and learning. Conclusions from research were all-important to teachers who chose the Deryl vignette, but Cheryl does not reject research if conclusions drawn from it do not impact her directly. She is more interested in something else:

> The conclusions are less important to me than the idea the researcher was trying to explore. The conclusions may or may not match what I believe the conclusions might look like in the particular setting I'm in. So although I would look at them [the conclusions], I think I'm more likely to think hard about the idea of the research.

Attending to research evidence. Cheryl worked with data when she was a teacher collaborator. Her role was to write a narrative account of student teachers' prideful experiences from observers' notes and interviews. She recognized how much could be lost translating from voice to words on paper, and feared that she might not be working with the notes and interviews appropriately. She also was not sure that she was working with research evidence.

> And I kept thinking, boy I hope I'm hearing this right as I read. I'm not sure you could ever call that evidence because I wasn't there when any of that original material was collected or those people were observed. So, I never met any of those people I was writing about. I was just writing from these copious observation notes and interviews.

Because of her limited role in the research project on which she worked, Cheryl has doubts about her competence to judge research evidence. She considers it "more honest" to say that she will look at the ideas that are part of the research and "try to think hard." Nonetheless, Cheryl implicitly sees a need to go beyond her focus on ideas only and dig further into the research's supporting evidence. She describes an experience she had at a recent convention where the practice of reading *Romeo and Juliet* and other traditional literary texts was being questioned:

> The question came out of research that was being done on the lack of minority literature in modern day textbooks and curriculum. And then the following question is, Who decided this stuff that we have been living for our whole career? But the original research had been done on the impact of minority literature—the disfranchisement of minority students when there is nothing in the curriculum that dealt with their particular group—Black, Native-American Indian, Mexican American, Asian American, whatever. That had been the original research. But it led to another question that is a real startling one once teachers look at it. Who did decide this [the traditional texts], and why in the world do we feel so attached to it? And then the whole minority literature question can really be dealt with. And I think that was certainly one thing Sarah said—making us think.

Cheryl believes that the idea drawn from research that traditional literary texts can disfranchise minority students is worth thinking about. She recognizes the need to assess different types of evidence and assumptions that support the idea, especially in such a contentious area. Being disposed to consider the idea and its supporting evidence is related to Cheryl's belief that research can not simply offer her answers.

Breaking from Conventional Modes of Thoughts

As a teacher collaborator, Geoff benefitted from the close attention to detail the project demanded. The struggle to "stay factual" and to support explanations with evidence he considered helpful. The research project Geoff worked on studied how teachers responded to students' incorrect answers. His project work did not force him to reject the intuitive basis of many teacher decisions. He remained certain that "it doesn't mean it's wrong to be hunchful when you're a teacher. You have to be. You have no choice."

His experience did place in sharp relief the two different perspectives teachers and researchers possess and helped him see that each perspective has its own value. He found that working on the research project started to intertwine with the way he thought about his own teaching:

> I think it made me a little more investigative and pursue further hunches sometimes. Why am I doing it this way? . . . Is this working great because it's easy for me, or because it gets a ditto in their hand, or is it working because of what I know about learning styles for kids? Not that I learned about learning styles in research, but what I learned was to think about what I was doing and ask myself, what are you basing your fact on why you want to do this approach? Is it because you've doing it for the last five years, or is it because somebody down the hall does it? Is this really a good way for kids to understand fraction for instance. So that sort of investigative thinking.

Studying research helped Geoff break from traditional modes of thinking and acting. Before becoming part of the project, Geoff felt threatened to use research to raise new questions about his teaching. After working on the project, research is

> more valuable to me now and maybe [it is] less threatening to raise new questions. It's less likely for me to go, wait a minute, I don't want to know what all the implications of this are, just tell me how I can do this in my classroom. I think I'm different from that. Some of these other guys in here [the vignettes] are not. . . . Being in a research atmosphere has an impact. That was one, that raising new questions helps teachers think about a point of view or ways they have never thought about before. You know, that kind of being open and listening and seeing other points of view.

Research provides analytic frameworks. For Geoff, he does not come away from research thinking it will tell him the right thing to do anymore. His approach now is that involvement with research provides an opportunity for him to be more analytic about his teaching. He states that he was not coming away from the research project thinking that now he knows what to say to students' incorrect responses to his questions. He was not just finding "the right way to respond": "But rather, what is the nature of responding to kids, and how does that affect kids, and why might it be a different sort of response based on the kid, the teacher, the class, the subject?"

Geoff believes, however, that research "can not be untied" to solving some of the classroom problems teachers have. But this can not be its sole purpose. He did draw some "prescriptions" from the research project he worked on. There were some things in the project that helped him interact with students and supported notions that he already had about how things work. "But I thought of the broader picture there for me—broader thinking about the nature of interaction between teacher and kid, and what are the

reasons that interaction is the way it is?" Geoff's work on a research project influenced his strategic thinking about teaching. Understanding the process of research changed the way he thought research could influence his teaching. Consequently, he sees Deryl's vignette as presenting "too narrow a determination about why we should be doing research."

Summary: Creating Contexts to Change Teachers' Beliefs

Dewey's hope that teachers' understanding of educational research would offer them systems of thought with which to interpret classroom practice was not a prevailing view either among researchers. Dominant expectations of research's influence during the scientific movement in education between 1900 and 1930 focused on research offering techniques to improve instruction (see Clifford, 1973). This view has some contemporary lineage—despite scholars' consensus that research has no direct implications—particularly in the knowledge-use literature and the use of research in teacher testing systems (see e.g., Louis & Dentler, 1988; Shulman, 1987; also, American Federation of Teachers, 1983). Teachers who chose the Deryl or Neal vignettes accepted popular expectations for how research should influence teachers, including skepticism about its value. They wanted research-based answers that they could use to change instructional practice, and they wanted these answers without recognizing any concomitant value in studying and conducting research themselves.

Teachers' skepticism toward research and their desire for it to provide authoritative guidelines to impact their teaching form an odd juxtaposition. If you are deeply skeptical that something can help you, why would you want it to provide authoritative prescriptions to guide what you are doing? The answer is that teachers felt they could test research prescriptions against their own teaching experience, and thus discard or accept them at their discretion. Contrary to popular slogans, teachers want research prescriptions; they do not want others (e.g., administrators, researchers) telling them what prescriptions must become part of their teaching repertoires. Teachers want to test the efficacy of the techniques against their own classroom experiences and accept them at their discretion.

It is unacceptable for external agents to impose on teachers prescriptions drawn from research findings. Researchers, however, often focus on establishing practitioners' right to decide whether a research finding is applicable rather than the processes by which practitioners views are changed by research (see Tom & Valli, 1990).

In addition, changing teachers' conceptions of research's influence is critical because it represents an important shift in teachers' professional thinking (see Clifford, 1973; Jackson, 1990). Teachers identifying with the Sarah vignette have subordinated, if not rejected, popular expectations for how research should influence their work. They do not want research only to change instructional strategies, and, in general, value studying the ideas and warrants for the ideas that lie behind the findings. They are more open to research that attempts to influence them in the manner Jackson (1990) describes. These teachers are more interested in research that helps them conceptualize or redefine issues. They are not simply interested in research concepts that are "informative or corrective, as might be the case if such alterations of view were looked upon as mere additions to or subtractions from what is already known" (see Jackson, 1990, p. 5).

In contrast, teachers who chose the Neal and Deryl vignettes are less interested in new concepts drawn from research that stimulate their thinking and clarify their practice. They want information about what to do next in their teaching. Altering their beliefs about, for example, teaching higher order and basic skills to disadvantaged students, may be seen as simply attempts to add new teaching strategies. They may not recognize that a major shift in understanding the relationship between learning higher order and basic skills is required (see Lanier & Sedlak, 1989). And, they are less disposed to value close attention to and analysis of research concepts, evidence, and assumptions that would help them evaluate their own beliefs.

These points are relevant to teachers working in professional development schools. Teachers in these schools are not simply adding new techniques to their teaching repertoires. They are being asked to alter substantially their beliefs about teaching and learning. Workplace expectations and time constraints may prevent teachers' discussion and evaluation of research pertinent to these beliefs, and teachers' prior

beliefs about the influence of research may hinder their willingness to do so. They may reject opportunities to discuss and to understand research because they look to research to provide new instructional strategies.

While the benefits and limitations of teachers' conceptions are clear, the dynamics by which teachers' conceptions change are not necessarily mysterious: "Thus the dynamics of altering practitioner perceptions remain cloudy; we can only acknowledge that the influence of knowledge on practice is indirect, because the practitioner mediates between these two arenas" (Tom & Valli, 1990, p. 380). It is first important to note that, because a practitioner mediates between research and practice, this does not entail that the practitioner has a broader view of research. How a practitioner mediates will depend also on how they think research should influence them. Hence, "the indirect influence of research" has a looser and more limiting meaning for these scholars. More importantly, the dynamics of altering teachers' perceptions does not seem mysterious, if teachers' self-reports of their work as teacher collaborators are valid. Geoff, for example, describes his involvement with researchers who valued clarity of expression and searched for explanations of classroom events. The result was that he began to realize that research could do more than change practice. He valued research because it helped him explain why classroom events occur. Bryan is another example. Unaware that research could influence him in any other way, he expected research to change his practice. After working on a research project, he saw this view as narrow. Like Geoff, he wants research to help him make sense of what goes on in classrooms. Fran initially expected research to impact her teaching directly. Talking about and studying research with other teachers and researchers broadened her view. She did not simply want research to help her "get things done," but valued trying to understand what the researcher is trying to learn or to prove.

For other teachers who chose the expanded model of research influence, the dynamics by which change occurred *is* cloudy. Nick, for example, a beginning teacher, chose Sarah, but he did not work as a teacher collaborator. Even Cheryl, who wanted ideas to consider over time and not research products to use, did not emphasize her teacher collaborator work as substantively changing her views. Certainty about what changed their beliefs is elusive, though the benefits remain apparent. Their focus was not exclusively or primarily instructional strategies and techniques that work, and they were more interested in working through and understanding research.

Contexts exist in which teachers' views of research may be broadened. As already indicated, graduate study (i.e., completing a master's degree in education) was not strongly associated with changing teachers' views of research, and it seems unlikely that the cursory course taking which typifies most teachers' graduate work does much to change their view of the influence of research. Teachers may change their conceptions by working in other contexts that give them the opportunity and time to interpret ideas, assumptions, and warrants undergirding research recommendations. Educational experiences exist that seem to move in this direction (see, e,g., Casanova, Berliner, Placier & Powell, 1991; Richardson, 1990; also Huberman, 1990) and may include graduate courses in education designed specifically to change teachers' views (see e.g., Hollingsworth, 1990). These experiences may also include an increasingly prevalent mode of inquiry—teachers' research on their own practice. Many reformers suggest that teachers need to learn to do research on their own teaching because such work will improve teachers' ability to analyze classroom situations and to respond in context flexibly and thoughtfully (see, e.g., Brause & Mayher 1991; Cochran-Smith & Lytle, 1990; Eliot, 1991).

These examples do not exhaust the different contexts in which teachers' views of the influence of research can be changed. These variations differ in terms of whether changing teachers' conceptions is a distinct educational aim or a consequence of teachers' involvement in the work (as with the teacher collaborators). Importantly, these variations also represent differing epistemological assumptions about the status of research knowledge in teachers' practice and assumptions about teacher learning and its relationship to what students learn.

These assumptions will influence greatly whether and how teachers' conceptions of research are changed. And, in fact, relatively little is known about what the actual effects teachers' experiences in these contexts are. Studying these effects are important, if the teacher education community is to help teachers move beyond constraining views of research use.

References

American Federation of Teachers (1983). *Educational research and dissemination program: Training and resource manual*. Washington, DC: National Institute of Education. (ERIC Document Reproduction Service No. ED 236 125)

Berliner, D. C. (1987). Knowledge is power: A talk to teachers about a revolution in the teaching profession. In D. C. Berliner & B. Rosenshine (Eds.), *Talks to teachers* (pp. 3-33). New York: Random House.

Bolster, A. S. (1983). Toward a more effective model of research on teaching. *Harvard Educational Review, 53*, 294-308.

Brandt, R. (1988a). On learning research: A conversation with Lauren Resnick. *Educational Leadership, 46*, 12-16.

Brandt, R. (1988b). On research and school organization: A conversation with Bob Slavin. *Educational Leadership, 46*, 22-29.

Brause, R. S., & Mayher, J. S. (Eds.). (1991). *Search and research: What the inquiring teacher needs to know*. London: Falmer Press.

Brophy, J. (1988). Research on teacher effects: Uses and abuses. *Elementary School Journal, 89*, 3-22.

Broudy, H. S. (1985). Variations in search of a theme. *Journal of Educational Thought, 19*, 34-39.

Buchmann, M., & Floden, R. E. (in press). *Detachment and concern: Topics in the philosophy of teaching and teacher education*. New York: Columbia University Press.

Casanova, U., Berliner, D. C., Placier, P., & Powell, J. (1991). *Readings in educational research: A program for professional self-development*. Washington, DC: National Education Association.

Cazden, C. (1983). Can ethnographic research go beyond the status quo? *Anthropology and Education Quarterly, 14* (1), 33-41.

Clark, C. (1986). Research into practice: Cautions and qualifications. In T. Raphael (Ed.), *The contexts of school-based literacy* (pp. 281-293). New York: Random House.

Clifford, G. J. (1973). A history of the impact of research on teaching. In R. M. W. Travers (Ed.), *Second handbook of research on teaching* (pp. 1-46). Chicago: Rand McNally.

Cochran-Smith, M., & Lytle, S. (1990). Teacher research and research on teaching: The issues that divide. *Educational Researcher, 19*(2), 2-11.

Cuban, L. (1988). A fundamental puzzle of school reform. *Phi Delta Kappan, 69*, 341-344,

Dewey, J. (1929). *The sources of a science of education*. New York: Liveright.

Eliot, J. (1991). *Action research for educational change*. Philadelphia: Open University Press.

Fenstermacher, G. D. (1983). How should implications of research on teaching be used? *Elementary School Journal, 83*, 496-499.

Garman, N. B., & Hazi, H. M. (1988). Teachers ask, is there life after Madeline Hunter? *Phi Delta Kappan, 69*, 669-672.

Griffin, G. (1983). Implications of research for staff development. *Elementary School Journal, 83*, 414-425.

Hollingsworth, S. (1990, February). *Coming to view teaching as research: A feminist perspective on an epistemological pedagogy for teacher educators*. Paper presented at a meeting of the American Association of Colleges of Teacher Education, Chicago.

Hopkins, D. (1985). *A teacher's guide to classroom research*. Philadelphia: Open University Press.

Hosford, P. (Ed.). (1984). *Using what we know about teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Howe, H. (1984). The value of research and disciplined inquiry to the improvement of education: Impressions of a nonresearcher. In J. B. Carroll (Ed.), *Improving education: Perspectives on educational research* (pp. 21-25). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Repoduction Service No. ED 263 129)

Huberman, M. (1983). Recipes for busy kitchens: A situational analysis of routine knowledge use in schools. *Knowledge: Creation, Diffusion, Utilization, 4*, 478-510.

Huberman, M. (1987). Steps toward an integrated model of research utilization. *Knowledge: Creation, Diffusion, Utilization, 8*, 586-611.

Huberman, M. (1990). Linkage between researchers and practitioners: A qualitative study. *American Educational Research Journal, 27*, 363-391.

Huling, L., Trang, M., & Correll, L. (1981). Interactive research and development: A promising strategy for teacher educators. *Journal of Teacher Education, 32*, 13-14.

Jackson, P. (1990). The functions of educational research. *Educational Researcher, 19*(7), 3-9.

Lanier, J. E., & Sedlak, M. W. (1989). Teacher efficacy and quality schooling. In T. Sergiovanni & J. Moore (Eds.), *Schooling for tomorrow: Directing reform to issues that count* (pp. 118-147). Boston: Allyn & Bacon.

Louis, K. S., & Dentler, R. A. (1988). Knowledge use and school improvement. *Curriculum Inquiry, 18*, 33-62.

Lucas, P. (1988). An approach to research based teacher education through collaborative inquiry. *Journal of Education for Teaching, 14*, 55-73.

Muir, R. (1982). A teacher implements instructional changes. *Journal of Classroom Interaction, 17*, (2), 13-21.

Nietzsche, F. (1968). *Twilight of the idols*. New York: Penguin Books. (Original work published 1889)

Phillips, D. C. (1989). On teacher knowledge: A skeptical dialogue. *Educational Theory, 38*, 457-466.

Porter, A. C. (1986). *Collaborating with teachers on research: Pioneering efforts at the institute for research on teaching* (Occasional Paper No. 105). East Lansing: Michigan State University, Institute for Research on Teaching.

Porter, A. C. & Brophy, J. (1988). Synthesis of research on good teaching: Insights from the work of the Institute for Research on Teaching. *Educational Leadership, 45*, 74-86.

Richardson, V. (1990). Significant and worthwhile change in teaching practice. *Educational Researcher, 19*(7), 10-18.

Richardson-Koehler, V. (Ed.). (1987). *Educators' handbook: A research perspective*. New York: Longman.

Shulman, L. S. (1984). Understanding pedagogy: Research for the improvement of teaching and teacher education. In J. B. Carroll (Ed.), *Improving education: Perspectives on educational research* (pp. 42-46). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 263 129).

Shulman, L. S. (1986). Paradigms and research programs in the study of teaching: A contemporary perspective. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 3-36). New York: Macmillan.

Shulman L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*, 1-22.

Thomas, D. (1984). *What research can and cannot do for teachers*. Unpublished manuscript, Institute for Research on Teaching, Michigan State University, East Lansing.

Tom, A. (1985). Rethinking the relationship between research and practice in teaching. *Teaching and Teacher Education, 1*, 139-153.

Tom, A. & Valli, L. (1990). Professional knowledge for teachers. In W. R. Houston (Ed.), *Handbook of research on teacher education* (pp. 373-392). New York: Macmillan.

Zeuli, J. (1991). *Teachers' conceptions of educational research*. Unpublished doctoral dissertation, Michigan State University, East Lansing.

Notes

[1]Teachers' responses to the vignettes are part of a broader study of teachers' views of research which includes how teachers understand research when they read it, and what teachers think constitutes educational research (see Zeuli, 1991).

[2]Though the sample of 13 teachers is unrepresentative of any given population of teachers, interviewees' responses are suggestive of what teachers with more or less experience with research may think about its influence.

[3]For example, interviewees' descriptions of what research experiences or encounters have made the most impression on them, and teachers' beliefs about what type of research articles they perceive as valuable; see footnote 2.

[4]Names of teachers are pseudonyms.

[5]Other teachers also mentioned workplace inhibitors in relation to teachers' further involvement with research—most notably—time constraints (Jessica), the organization of teachers' work (Nick), the public's perception of teachers' role (Bryan), and administrators' use of research to legitimate and impose policies and practices (Leisa).

[6]In contrast to Bryan, Nick took a strong stand against all research translations, arguing that teachers closely read research texts. Simplifying research for teachers presents a danger. "When you are simplifying or reducing information, I don't think you're adding something to it generally—you're losing something from it. So, I think it's important that each teacher get as close to the original source as possible." Nick, a beginning teacher, identified with the Sarah vignette. He wanted research to "load his armor," give him "bullets" with which he is able "to defend" himself. These bullets, however, were not instructional techniques. They were research ideas that fit (and defended) his teaching philosophy. He also wanted research to raise questions for him. Nick found that the workplace offered him or his colleagues no support to read and think about research. According to Nick, teachers do not want to read research because of the fast-paced work of teaching. "The school year should be set up differently."